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THE CAMP IN HIGHER EDUCATION

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During the past two years various pamphlets and catalogues of colleges and universities have been received in the Office of Education, United States Department of the Interior, showing that some institutions of higher education are endeavoring to provide and maintain facilities for out-of-door study for students. From the material which has been received it is evident that important practical and experimental work is carried on in institutions in various parts of our country, not only as a part of the required work of certain curricula leading to a bachelor of arts or science degree, but as a special opportunity for research study for graduate students and teachers. In general, it is the opinion of the directors of this work that many courses of study usually taught by lecture and laboratory method in school buildings can be more thoroughly and scientifically taught in a specially selected environment out of doors. This pamphlet presents a brief outline of some of the out-of-door work which is being carried on at this time by a few institutions with the hope that other institutions will be stimulated to provide similar opportunities.

Colleges, universities, teachers colleges, and normal schools are beginning to establish organized summer camps for the purpose of providing students with opportunities for practical experience as a part of the required work of certain curricula; providing for students and teachers a means for vacation study which is a combination of recreation and education; and providing professional courses in leadership for camp councilors. Among the various schools and departments of colleges and universities by which the summer camp has been introduced may be mentioned the following: Engineering, geology, science and biology, nature study, education, health education, physical education, recreation, and forestry.

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ORGANIZED SUMMER CAMPS

DEPARTMENTS OF ENGINEERING

Relatively few institutions have established special engineering camps in which to carry on some of the required work of these courses. Among the institutions which have established camps of this kind may be mentioned Yale University, New Haven, Conn.; Harvard University, Cambridge, Mass.; Massachusetts Institute of Technology, Cambridge, Mass.; and the University of Michigan, Ann Arbor, Mich.

Yale University, New Haven, Conn., provides a summer camp as a field for practical work in connection with certain courses in engineering. The camp is situated in the town of East Lyme, Conn., on a tract of land of approximately 2,000 acres. In the center of the tract is a lake about a mile long. The equipment includes a building for instruction, a building containing a dining pavilion and a kitchen, and a building in which the surveying equipment is kept. The instruction building contains a large assembly hall, four recitation rooms, four drafting rooms, and rooms for the instructors. Living quarters are provided for about 100 students. Courses of study are conducted at this camp during the summer months and also in September. All students registered in mechanical, civil, electrical, and other engineering courses are required to spend about four weeks of each year in practical camp work.

Massachusetts Institute of Technology provides to some extent for camping in connection with the courses given in civil engineering and mining engineering. Courses in surveying for civil engineering are given in Camp Technology, Technology, Me. Courses in surveying for mining engineering are given at a camp at Scrub Oak Mine, near Dover, N. J. The location of this camp was selected because of its excellent situation with reference to mines and its unusual geologic exposures and topography.

The University of Michigan, in connection with the department of engineering, provides an extensive and well-equipped camp for students enrolled in this department. Camp Davis, as it is called, was first opened with a gift of 1,600 acres. Later it was increased to 3,200 acres of land. It is situated in Cheboygan County between Burt and Douglas Lakes. The camp includes 50 residence buildings. In addition there are buildings for storing supplies, a central power station, a kitchen, a dining room, complete sanitary system with septic tank, a water system, including a reservoir, an instrument room, two steel office rooms, an ice house, and a club building for students. Excellent recreational features have been prepared by the students, including an athletic field and facilities for bathing and

swimming. The health of the students is carefully looked after by a physician from the university health service.

Harvard University maintains an engineering camp at Squam Lake, N. H. The camp opens on the Saturday after commencement and continues for eight weeks. All work in surveying is given at this time. The work offered includes plane topographic and railroad surveying. This work counts as a full course according to the Harvard rating, which is six semester hours plus the laboratory work.

At present there are comfortable housing facilities for about 125 men. The kitchen, dining room, and drafting rooms are wooden buildings. All members of camp are required to live in tents; each tent accommodates four men. The tents are provided with wooden floors, woven-wire cots, lanterns, pails, tin cups, and tin basins. Students provide their own bedding.

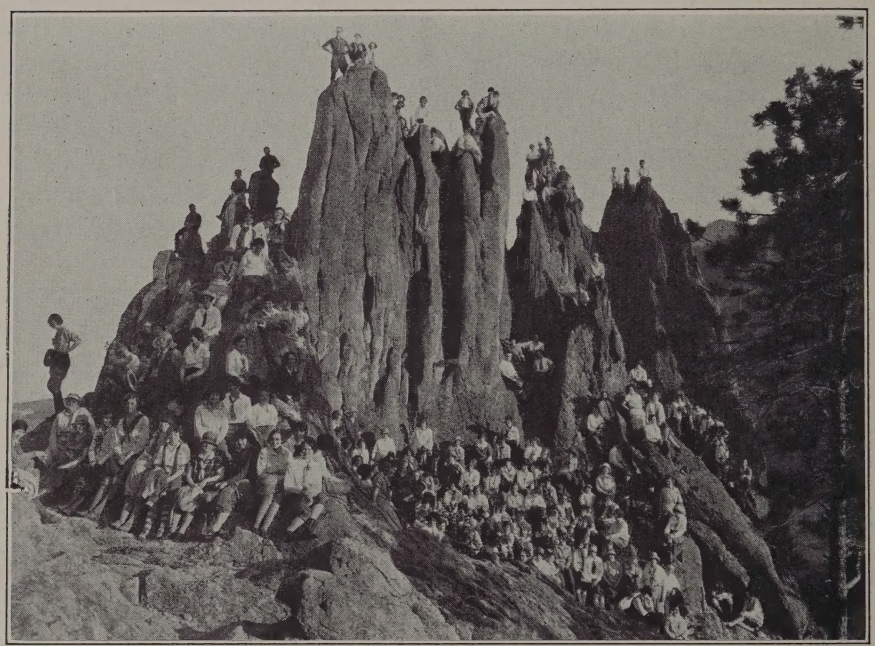
Ohio State University, Columbus, provides what is known as the summer surveying camp as a part of the required work in civil engineering. Students are required to do six weeks of field practice in camp. "Ordinarily the class is taken into rough wooded country and surveys, plans, and estimates are usually prepared for highways, railroads, or other engineering developments."

DEPARTMENTS OF GEOLOGY

For many years professors of geology in colleges and universities have supplemented their classroom lectures and laboratory work by short excursions and hikes for the students to whatever places of special interest could be found nearby. Recently special geological summer camps and extensive tramping excursions and expeditions have been conducted by the professors of geology in several colleges and universities. Courses of this type consisting largely of travel supplemented by lectures given en route are very interesting to the students and different from the ordinary university courses given largely in classrooms and laboratories.

Since 1923 the University of Colorado, Boulder, has maintained a summer camp on an 80-acre tract of land in the Colorado National Forest about 25 miles from Boulder. While the camp was originally established for purely recreational purposes, special provision has been made for students of geology to do field work. Students taking these courses spend three days a week in lecture and recitation, and three days a week in field work. A special building "Science Lodge," is provided for the class work. Several other buildings, including a library, a recreation hall, and a special dining room, are also provided for the exclusive use of these students. During the past summer 12 students were enrolled for the first term, and 22 students were enrolled for the second term. Three instructors carried on this work.

In the summer of 1926, Princeton University, Princeton, N. J., inaugurated a summer travel course in connection with the department of geology. The course was organized under the auspices of a special council, including leading American, Canadian, and British geologists and educators especially interested in the study of geology. The course was called "The geology and natural resources of North America." The entire course consisted of travel for a period of about four weeks, supplemented by special lectures and study. The party traveled in a specially constructed Pullman car which was the permanent home and classroom of the party. Camping excursions were made from the car as needed. Examinations were given at the



Students of the University of Colorado enjoy a "beefsteak fry" at Red Rocks, near Boulder

completion of the journey and regular college credits were allowed to those students who successfully completed the course.

Massachusetts Institute of Technology, Cambridge, provides for students of geology a special 10-day course in "The highlands of New Jersey." The course begins September 12 and ends September 22. Instruction and practice are given in detailed geological mapping and in field methods of geological work. The areas visited provide unusual geologic formations and special attention is given to the study of the Cambrian and Ordovician sediments conspicuously folded and faulted in this region.

The department of geology of Harvard University provides every summer for a study trip on which the students travel to various parts

of the country under the direct guidance of a Harvard teacher. Different places are visited each year. These trips afford excellent practical experience for the students.

The University of Oregon, Eugene, Oreg., conducts an annual field course in connection with the department of geology. During the summer of 1927 a summer camp in geology and geography was conducted from June 15 to July 15 in the Wallowa Mountains. Students from any accredited college or university who have had at least one full year of general geology, or its equivalent, may enroll for this work. Special provision is made for a limited number of students of advanced standing for field work in either the Cascade Mountains or central Oregon with members of the department staff carrying on research in those areas. Seven term hours of credit are

Students of the University of Colorado crossing the cirque of Arapaho Glacier

allowed for the satisfactory completion of the undergraduate work. For the more advanced work, the number of term hours of credit allowed depends upon the nature of the problem and the academic standing of the student.

DEPARTMENTS OF SCIENCE AND BIOLOGY

The movement for providing research facilities for students of science and biology courses given in colleges and universities began nearly 50 years ago when Louis Agassiz established a zoological laboratory at Harvard University. Agassiz also developed the modern marine laboratory which has led to the establishment of many such laboratories in all parts of the world. Among these may be mentioned especially the marine biological laboratories established

at Woods Hole, Mass., and at Beaufort, N. C., under the direction of the United States Fish Commission. While some special work was done at Woods Hole, Mass., as early as 1871, the first building of the present station was completed in 1884, and in 1888 the laboratory was incorporated and opened for the use of students and investigators of marine zoology. At the present time 84 colleges and universities throughout the country subscribe to and cooperate in the work of this station. The Woods Hole Biological Laboratory is open throughout the year for special research work. Courses of instruction for college students who have had two years of biology are provided during the summer term from June 27 to August 7. Research and instruction are available in five departments, including zoology, protozoology, embryology, physiology, and botany.

Stanford University, Stanford University, Calif., maintains a special biological station known as the Hopkins Marine Biological Station. This station was established in 1892 on Point Aulon at Pacific Grove on the south side of Monterey Bay. In 1917 it was moved to Cabrillo Point. This location provided a more complete control of the coast line and in addition an excellent sheltered landing place and harbor for boats. At this time new buildings were erected which contained 5 large laboratories for classes and 11 private laboratories for special research investigation. In 1928 a new unit known as the Jacques Loeb Laboratory was built. In 1929 the Alexander Agassiz Laboratory was added. In general, the station provides facilities for study for regular students of Stanford University pursuing studies in science and biology; students assigned from other institutions pursuing similar studies; and special students not expecting formal credit and not candidates for degrees. The station is open throughout the year for special research work and during the spring and summer for the regular classes. The courses offered include graduate and undergraduate studies. Students are provided with "ample opportunities for acquaintance with animal life along the shore" and "opportunities to solve, by their own efforts, problems in the physiology of marine organisms."

The teaching staff in each department includes leading scientists from the various subscribing schools. Special lectures are given. Seminars are held frequently for the discussion of certain topics. In addition, the students enjoy many water trips. The station is equipped with motor boats, a steam launch, and a dredging boat. "The primary purpose of this laboratory is the promotion of biological research by supplying facilities to competent investigators and by the cooperation of all interested in improving the means of investigation in the biological sciences."

A few colleges and universities maintain special biological stations in connection with the work of the department of biology. Some institutions arrange for use of research tables for their students in several of the marine biological stations. Among the institutions which provide some research facilities may be mentioned Stanford University, Stanford University, Calif.; Tufts College, Tufts College, Mass.; University of Michigan, Ann Arbor; Ohio State University, Columbus; Northern State Teachers College, Aberdeen, S. Dak.; and State University of Washington, Seattle.

The Biological Laboratory, Cold Spring Harbor, Long Island, N. Y., was established in 1882 as a department of the Brooklyn Institute of Arts and Sciences under the direction of Prof. Franklin W.

Recreation hall, kitchen, and science lodge, university camp, University of Colorado

Hooper. Professor Hooper was assisted in this work by Mr. Eugene G. Blackford, fish commissioner of New York, and also by a Mr. John D. Jones, who not only donated land but also erected suitable buildings for the laboratory. In 1924 the Biological Laboratory was transferred from the Brooklyn Institute of Arts and Sciences to the Long Island Biological Association (Inc.). It is open for research throughout the year. A staff of eight scientists is maintained at all times. Courses of study in zoology and botany are offered during the summer for the training of investigators and teachers. The work is usually accredited by colleges and universities. However, the arrangements between the university and the student must be made by the student in regard to the amount of credit given. During the 36 years of its existence the Biological Laboratory has been in-

strumental in the training of more than 1,800 biologists, while many scientific investigations of note have been carried on by investigators in residence at Cold Spring Harbor.

The Scripps Institute of Oceanography, La Jolla, Calif., grew out of the efforts of the department of zoology of the University of California to promote "research on the animal life of the Pacific Ocean." As early as 1901 these efforts were definitely organized. While the first financial support came mainly from interested persons and only to some extent from the university, since 1912 the State of California has contributed liberally to the support of the scientific work and the management has been transferred entirely to the regents of the University of California.

Scripps Institution of Oceanography, as it is now called, is located on a 177-acre lot on the ocean front about 16 miles north of San Diego and about 2 miles north of La Jolla, Calif. The housing and equipment of the institution include a special library, a laboratory, a museum, a wharf, an aquarium, gasoline boats, and six cottages. In addition to courses offered to qualified students in general oceanography and in special oceanographic problems, there are courses in physical oceanography, marine sediments and other geological subjects, the quantitative study of microplankton, the ecology of marine organisms, and chemical oceanography. The institution also furnishes opportunities for the study of geographic variation and heredity in the smaller terrestrial mammals.

Graduate students regularly enrolled in the University of California for work at Scripps Institution may become candidates for the degrees of master of science and doctor of philosophy, in accordance with the general rules for such candidacy in other departments of the university in which higher degree work is done. Residence at La Jolla may be credited toward a higher degree as residence at Berkeley, but candidates for degrees at the Scripps Institution usually find it necessary to do some work in one or more departments at Berkeley.

Tufts College, Tufts College, Mass., supports research tables in the Marine Biological Laboratory at Woods Hole, Mass., and in the Mount Desert Island Biological Laboratory at Salisbury Cove, Me.

The Mount Desert Island Biological Laboratory was founded at South Harpswell, Me., in 1898 under the name of The Harpswell Laboratory as a summer school of biology, by Dr. J. S. Kingsley, at that time professor of biology in Tufts College, Mass. In 1913 this laboratory was reorganized as a scientific corporation under the laws of the State of Maine, with a board of 10 trustees. In 1921, under the directorship of Prof. Ulric Dahlgren, of Princeton University, the laboratory was moved to Salisbury Cove on Mount Desert Island.

The laboratory affords ample facilities for research investigators in marine biology.

The University of Michigan, Ann Arbor, for more than 20 years has maintained a biological station in connection with the department of biology. Instruction in biology is available at a permanent camp on the shore of Douglas Lake in Cheboygan County. Facilities are available for about 76 students during the summer term, June 25 to August 17. The instruction at the laboratory is given chiefly in the field, and laboratory work, when necessary, is based on collections made by the students on field trips.

Ohio State University provides a special biological laboratory known as the Franz Theodore Stone Laboratory. This laboratory is located on Gibraltar Island, near Put-in-Bay on Lake Erie. It provides special facilities for advanced students, teachers, and investigators in zoology, entomology, and botany, particularly in the study of aquatic life.

In general the work of the marine biological stations is confined to the provision of research facilities for specially prepared college students, and for graduate students and teachers pursuing special research studies. The minimum entrance requirement is usually two years of science or biology. Recently, however, there has been a movement for the provision of more out-of-door practical work even for the first-year college students pursuing elementary courses in biological sciences. One college has established a general science camp; another has affiliated with an outdoor school of natural history. Several institutions have established biological stations in which not more than six semester hours of credit are required for entrance. Among the out-of-door science schools or special science camps which are being developed may be mentioned the Allegany School of Natural History, conducted by the Buffalo Society of Natural Sciences in cooperation with the New York State Museum and affiliated with the University of Buffalo, and nature camps of the Pennsylvania State College, State College; Lake Enemy Swim Biological Station, maintained by the Northern State Teachers College, Aberdeen, S. Dak.; and Friday Harbor Biological Station, maintained by the University of Washington, Seattle.

The Allegany School of Natural History is located within the Allegany State Park in the southeastern part of New York State. It was established "to meet the need for outdoor training and experience in natural history," and to supplement the "conventional lecture room and laboratory instruction in botany, zoology, and physical geography as generally offered in city schools and colleges."

The department of nature education, Pennsylvania State College, State College, provides a nature study camp in the Tussey Moun-

tains, 16 miles from State College on land owned by the State of Pennsylvania. The camp is equipped to handle a maximum of about 60 students per term. There is a lecture hall and laboratory and 16 cottages are provided as living quarters for the students. Two 3-week periods of intensive camp work are given each summer. The first course includes a general survey of nature; the next two years include a more intensive survey. Graduate courses are given to students who have already to their credit 12 or more credits of undergraduate nature education.

Nature study camps for teachers have distinct advantages on account of the fact that they are given in the open. "Advantages for nature study in the field are superior to any courses offered in residence at colleges and universities. Teachers have an opportunity to study and work under exceptionally favorable conditions. Group interest and enthusiasm can be developed and held better than under other conditions."

The Northern Normal and Industrial School of the Northern State Teachers College, Aberdeen, S. Dak., provides an interesting biological station at Waubay, S. Dak., known as Lake Enemy Swim Biological Station. This station is designed to offer opportunity to investigators, teachers, and students for study and investigation of problems of biology.

> The camp affords splendid opportunity for study of life with reference to aquatic conditions * * *. The courses are designed to give first-hand information concerning plants and animals in their natural habitat and surroundings. The procedure of the course is an excellent supplement to the more strictly laboratory type of college training in biology. The courses of instruction open July 16 and close August 24. The following courses are given: General biology; invertebrate zoology; vertebrate zoology; economic zoology; botany; systematic botany; plant ecology; genetics and eugenics.

The University of Washington, Seattle has established near Friday Harbor, Wash., in San Juan County, a special biological station. The entire area of the station includes 485 acres. Permanent structures have been built for housing and for school purposes. A kitchen and a dining room accommodating 200 students are provided. Four special laboratories about 24 feet by 25 feet have been built. Special laboratory equipment is sent out each summer from the University at Seattle.

A sufficient amount of work is given at this summer-school station that the student may receive 13 units of credit for nine weeks of work.

The Washington State Normal School, Bellingham, cooperating with the University of Washington, also provides for students to pursue courses in science at the special biological station maintained by the University of Washington. The courses offered include plant

biology and animal biology. They are planned so as to provide teachers with experience, materials, and information which will be helpful to them in arousing in their pupils an interest in the out-of-doors, especially in plants and animals. Students may earn 9 units of credit for 6 weeks of work, or they may earn 15 units of credit for 9 weeks of work.

SCHOOLS OF EDUCATION

The establishment of summer camps in connection with the work of departments of education in colleges and universities is comparatively recent. In general, these camps have been established because

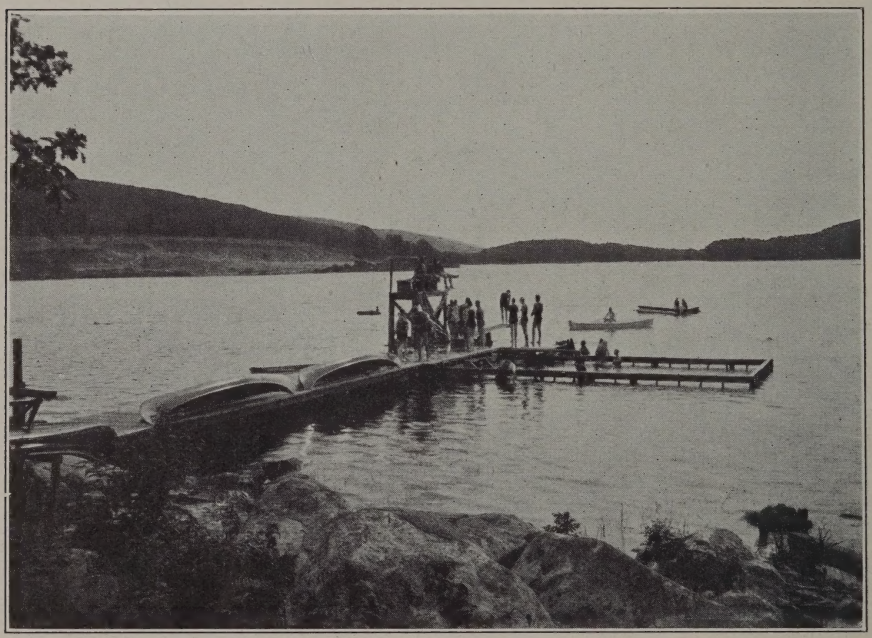
A demonstration tent and camp fire, New York University summer camp, Palisades Interstate Park

of the demand for teachers and nature leaders with practical experience, as well as to stimulate an interest in natural education which takes place out of doors. The courses provided in these camps are especially designed for teachers of physical education and nature study, elementary teachers, school administrators, and others interested in the opportunities for practical experience out of doors in wholesome recreational atmosphere.

The school of education of New York University, New York City, provides a camp in connection with its summer work. The camp is located on Lake Sebago in the Palisades Interstate Park. All of the courses offered at this camp may be credited toward baccalaureate and graduate degrees under the rules and regulations of the school

of education. However, not more than eight points may be presented by a student for credit in any one summer. Courses given at this camp are especially designed for graduate students and those who hold positions in teacher-training institutions, or who are in administrative positions in physical education, recreation, and camping. All students registered in New York University majoring in physical education are required to spend at least one month at the undergraduate department June camp at Lake Sebago.

The Cleveland School of Education of the Senior Teachers College of Western Reserve University, Cleveland, Ohio, provides for a special nature guide school in connection with the summer term. The school



Dock and swimming crib, New York University summer camp, Palisades Interstate Park

was opened because of the demand of teachers and nature leaders for practical field experience. It was organized for the professional training of teachers who wish to enrich their program, playground leaders who are interested in directing nature clubs, scouts and campfire naturalists, nature councilors for summer camps, community and park nature guides, and nature lovers who wish to broaden their own training. The school is located at Hudson, Ohio, about 25 miles from Cleveland. The entire area includes 531 acres of farm and forest lands. Credit for work is accepted toward the Ohio State certificate for teaching and also for the bachelor of education degree. The morning hours are generally devoted to academic work and the afternoon hours to field trips. The daily program also includes recre-

ational activities and rest. The school is open to both men and women who have a genuine interest in nature study. Equipment is provided for about 150 students.

The University of Wisconsin, Madison, has recently established Camp Randall not only as a means of affording practical experience in camping for students in the department of education majoring in physical education, but also as a means of providing all students with opportunities for enjoying winter sports. A course in camp leadership is offered as an elective for men and women. Two semester hours of credit are allowed for this work.

DEPARTMENTS OF PHYSICAL EDUCATION AND HEALTH EDUCATION

In view of the fact that a large per cent of the work of teachers of physical education in educational institutions throughout the country is carried on out of doors, a few institutions which provide professional courses in physical education and health education for teachers also maintain facilities for camping in connection with these courses. Several institutions provide camps which are open to students during the summer term only. Several institutions maintain camps which are open for the students throughout the entire school year.

Mills College, Mills College, Calif., provides for a special camp in connection with the department of physical education. Mills College offers through this camp an opportunity for teachers:

> (1) To improve their teaching methods and technic in major sports; (2) to live in a carefully planned environment with an interesting and professionally trained group of workers from various fields; (3) to pursue advanced work in physical education for graduate academic credit; and (4) to gain knowledge and skill in camping and woodcraft at a training camp for directors and councilors.

The Mills College campus has been chosen as the site for the camp session. It contains an area of 120 acres. The courses given may be taken for credit or they may be taken without credit. Mills College also owns 50 acres of land and a mountain lodge in the Sierra foothills. This lodge is available for student use at week-end and vacation periods throughout the college year. Such equipment gives valuable opportunity for students majoring in physical education to experience leadership responsibility with groups of girls by taking them on overnight trips, instructing them in outdoor cooking, woodcraft, riding, water sports, and the like. During the summer the physical education department uses the mountain site for an organized camp program open to girls of high-school age. This supplies laboratory experience in a real camp situation for students who are training for camp leadership.

Florida State College for Women, Tallahassee, provides an educational and recreational camp to supplement the work of the department of physical education. The camp is situated on Lake Bradford and is available throughout the year.

Brenau College, Gainesville, Ga., provides for week-end camping parties for students attending the college. This camp is located on the college campus which contains 96 acres. Brenau College also provides for a course in camping as a part of the professional course in physical education.

The Y. M. C. A. School, a graduate school of physical education, Nashville, Tenn., provides for an out-of-door summer school at Blue Ridge, N. C. Practical and theoretical courses in camping are given for students who wish to secure training in this work.

Battle Creek College, Battle Creek, Mich., maintains a summer camp known as Camp Pottawottamie located on an island in Gull Lake, a few miles from Battle Creek. All students taking the 4-year course in physical education are required to spend one month at this camp which is equipped for all kinds of outdoor recreational activities.

Skidmore College, Saratoga Springs, N. Y., provides a course in camp craft as a part of the required professional course in physical education given in the department of health and physical education. The course is given at Camp Mesacosa on Effner Lake, Corinth, N. Y., during the first three weeks of September. Students majoring in physical education are required to attend this camp two seasons.

The Slippery Rock State Normal School, Slippery Rock, Pa., through its department of health education in cooperation with the department of science since 1925 has maintained a summer camp as a part of its summer school. All students registered in the department of health education are required to spend six weeks in this camp before graduation. The camp is known as Camp Canawasca. It is situated about 3 miles south of Slippery Rock, and 12 miles north of Butler, Pa. The site provides ample facilities for nature work and outdoor sports of all kinds. Courses in camp craft, scouting, and water sports are given as a part of the health education work. Courses in nature study include astronomy, plant life, and animal life. Among the aims of the camp may be mentioned not only the training of teachers of health education and of science, but also the initiation of all students into the appreciation of nature and the out-of-door sports.

The University of Washington, Seattle, provides for a 3-week course in camping during the month of September at Hidden Cove Camp on Hood Canal. The course includes actual experience in

camp organization and in camp activities, practice in soccer, water sports, swimming, canoeing, life-saving, camp cooking, and overnight hiking. The course is required of all students majoring in physical education and two semester hours of credit are allowed for this work.

SCHOOLS OF FORESTRY

The summer camp is not new in connection with schools or departments of forestry in colleges and universities. In fact, forestry schools have always included such a large amount of practical outdoor work that many young men have been attracted to this field because of the opportunities for outdoor life. At the present time 23 colleges and universities provide major courses in forestry which lead to a college degree. While practically all of these institutions include considerable outdoor work in their courses some of them provide special forestry camps during the summer term. Among the institutions which provide special summer forestry camps in connection with schools or departments of forestry may be mentioned the following: University of California, Berkeley; Colorado Agricultural College, Fort Collins; Colorado College, Colorado Springs; Connecticut Agricultural College, Storrs; University of Georgia (Georgia State College of Agriculture), Athens; University of Idaho, Moscow; Purdue University, Lafayette, Ind.; Iowa State College of Agriculture and Mechanic Arts, Ames; Louisiana State University and Agricultural and Mechanical College, Baton Rouge; Michigan State College of Agriculture and Applied Science, East Lansing; Cornell University (New York State College of Agriculture), Ithaca, N. Y.; Pennsylvania State College, State College; Pennsylvania State Forest School, Mont Alto; and New York State College of Forestry, Syracuse.

The division of forestry of the University of California provides for 12 weeks of undergraduate work in a camp in the Plumas National Forest.

The Colorado Agricultural College, Fort Collins, provides for 11 weeks to be spent on a 1,600-acre college forest 50 miles west of Fort Collins.

The University of Georgia, Athens, requires students to spend 12 weeks in field work in a forest camp.

Purdue University, Lafayette, Ind., provides for 8 weeks in a summer camp in a 4,500-acre State forest.

The department of forestry of the Iowa State College of Agriculture and Mechanic Arts, Ames, provides for 3 months of instruction in one or more of the national forests.

New York State College of Forestry, Syracuse University, Syracuse, N. Y., provides for 12 weeks at a camp in the Adirondack

Mountains; and the department of forestry, Cornell University, Ithaca, N. Y., requires students to spend 5 weeks in a camp in the summer following the sophomore year, 4 weeks in camp in the summer following the junior year, and 3 months in practical work before graduation.

SCHOOLS OF AGRICULTURE

The development of the 4-H Club camps for boys and girls, fostered by the extension divisions of agricultural colleges in cooperation with the United States Department of Agriculture, needs no introduction. This movement having had its beginning about 1914 is no longer considered an educational adventure. It has grown rapidly since 1922 and at the present time is considered an excellent means not merely of bringing together the boys and girls of rural districts in healthful recreation and educational projects, but also in bringing together leaders from the various local and county camps in a State camp for similar purposes, and finally in assembling groups of these youthful State leaders in a national camp which is held each year in Washington, D. C., under the auspices of the United States Department of Agriculture.

In general, " The boys and girls in these clubs meet together, work together, play together, cooperate, and achieve. They play the game fairly. They demonstrate work, earn money, and acquire property. They learn and teach the better way on the farm, in the home, and in the community. They build up their bodies and their health through right living. They train their hands to be useful, their minds to think clearly, and their hearts to be kind."

During the year 1927–28, 2,456 4–H Club camps were held throughout the United States with an attendance of 180,931. The State club leader is responsible for the plans and programs for these camps in his State. In general, the organization and administration of club camps for boys and girls afford ample opportunities for practice teaching for students of home economics and agriculture who wish to assist in this work, thereby supplementing their college courses with practical experience.

SUMMER SCHOOL FACILITIES FOR CAMPING

Facilities for camping as a means for housing summer school students are provided by a few institutions. In some instances facilities for camping are provided for a few students only, while in other instances the entire summer school is carried on in a specially selected location in which inexpensive permanent summer quarters have been provided for the faculty and students.

The State Normal School, Oswego, N. Y., provides facilities for camping in connection with the work of its summer school. The camp is located at Shady Shore on Lake Ontario.

The Colorado Woman's College, a junior college, Denver, has for several summers conducted its summer school at Camp Freeman, located about 34 miles west of Denver, in the Rocky Mountains. Courses of instruction in the various academic subjects are offered.

State Teachers College, Chico, Calif., for 9 or 10 years has carried on the work of its entire summer school in northern California at the base of Mount Shasta. The courses offered meet the requirements of the California State Board of Education.

Students of the University of Colorado on the way to Arapaho Glacier

McPherson College, McPherson, Kans., maintains a summer school for teachers at Palmer Lake, Colo. Ample equipment has been provided, including housing facilities, school buildings, and cottages. Courses are given which meet the requirements of State departments of education.

The Richmond School of Social Service and Public Health, which is affiliated with the College of William and Mary, Williamsburg, Va., provides for a short course in camping given at the close of the regular school session. Students and faculty spend a week in a well-equipped near-by camp. Attendance at this camp is required of all students who are candidates for certificates of proficiency in recreation and community work.

ADMINISTRATION OF FIELD WORK

In general, the organization and administration of field work or organized camps as a part of the work of colleges and universities presents somewhat of a problem, especially for the smaller colleges. In view of this situation the following information is presented regarding ways of securing facilities for small colleges, specific objectives of field work and summer camps, eligibility requirements for attendance, administration of credits, average cost per student for attendance, and evaluation of outcomes.

FACILITIES FOR SMALL INSTITUTIONS

At the present time no definite plan could be suggested which would be suitable for all colleges or universities in the matter of securing facilities for field work or summer camps as a part of their educational work. However, it may be said that a number of opportunities exist in various sections of the country which could be used to advantage by the various institutions.

Many of the college camps provided at this time were made possible in the beginning through special gifts of land made to the various institutions by interested benefactors. While in many instances these original sites were small, additional land was usually secured later by purchase in order to enlarge these facilities.

The Colorado Woman's College several years ago received from Judge Fred W. Freeman, of Denver, Colo., a gift of a 20-acre camp. This camp was opened not only for the students enrolled in the regular school year but also for the entire summer school.

The establishment of Camp Davis as an engineering camp by the University of Michigan was made possible by a gift of 1,600 acres.

The Hopkins Marine Station, during the first 25 years of its existence, while nominally a part of Stanford University, was dependent for its upkeep and extension chiefly upon student fees and private gifts, the latter mainly through the constant sympathetic interest of Mr. Timothy Hopkins. At the present time, however, the Hopkins Marine Station is a department of Stanford University, controlled by the board of trustees, the president, and the academic council in the same manner as other departments of the university.

Several institutions have made a beginning toward providing summer camps by leasing certain areas which seemed to provide suitable facilities. For example, the Nature Guide School, of the Cleveland School of Education of Western Reserve University, Cleveland, Ohio, is carried on at Hudson, Ohio. The 31-acre campus of the Western Reserve Academy, along with a 500-acre forest, affords a splendid location for the school.

The State Normal School, Keene, N. H., in order to make a small beginning in providing outdoor recreational facilities, several years ago leased an abandoned 2-story rural schoolhouse and repaired the building so as to provide temporary shelter for students' hiking parties.

In view of the fact that there are more than 5,000 well-established, privately owned summer camps for boys and girls in various parts of this country which are rarely used except in July and August, there is a possibility that some of these camps could be leased at a reasonable price for the month of June by near-by colleges or universities.

Probably the most attractive facilities for field work or camp sites are available in the State and national parks and national forests. Such locations for educational work are valuable not only for the colleges and universities but also for the park directors.

Among the colleges which have taken advantage of the opportunities for camping which are available in the State and national parks and national forests may be mentioned the following: The Iowa State College of Agriculture and Mechanic Arts, Ames, which provides for three months of instruction in one or more of the national forests in connection with the work of the department of forestry; the department of education of New York University, which has established a summer camp on a 100-acre site in the Palisades Interstate Park; the Allegany School of Natural Science (which is affiliated with the University of Buffalo), located in the Allegany State Park, N. Y.; and the Humboldt State Teachers College, Arcata, Calif., which provides for hiking and recreational excursions for its students into the Sequoia National Park, although no permanent camp as yet has been established by this institution.

SPECIFIC OBJECTIVES OF FIELD WORK AND SUMMER CAMPS

The following detailed information regarding the specific objectives of several of the various outdoor schools and science camps in connection with institutions of higher education is presented for the purpose of showing just what several of the institutions are trying to do in this line of work.

In general, the Allegany School of Natural History was established "to meet the need for outdoor training and experience in natural history, and to supplement the conventional lecture room and laboratory instruction in botany, zoology, physical geography, and geology, as commonly offered in city schools and colleges." The specific objectives stated in a circular of information are as follows:

> To provide as favorable conditions as are practical for studies in the natural sciences in inland regions; to give to each student the maximum benefit of close personal guidance from instructors experienced in teaching and in re-

search; to develop, as far as possible, the capacity of each student for continuing his or her studies independently; and to stimulate summer students to become naturalists.

The nature camp of the department of nature education, of the Pennsylvania State College, was established to meet the demand of teachers and nature students for practical nature study. It provides an opportunity for teachers and students to spend a pleasant and a profitable vacation out of doors. It also provides ample opportunities for students to make field observations and studies along the various lines of nature study.

One of the chief purposes of the establishment of the summer camp maintained by the department of education, New York University, was "to stimulate interest in the natural education which takes place in the out of doors."

The biological station at Douglas Lake, maintained by the University of Michigan, was established "in order that students and investigators might have an opportunity to do field work of a sort which can not be so well carried on under urban conditions or within the limitations of a university schedule * * * through field trips the student learns from personal experience the habitats and behavior of plants and animals in their native environment."

ELIGIBILITY REQUIREMENTS

At the present time there is some variation in the requirements of institutions of higher education regarding the eligibility of students to attend summer camps or be admitted to specially arranged scientific travel tours. In some institutions, graduation from an accredited high school is sufficient for enrollment. In other institutions at least one or two full years of college credit in science courses is required. In some of the marine research biological stations eligibility for attendance is dependent largely on previous training and special talent. At summer camps maintained by departments of health, physical education, and education, eligibility is usually dependent on graduation from an accredited high school. However, camps of this type also provide for special research graduate students and for school administrators. Special camps maintained by departments of geology, engineering, and biology, usually require as a minimum two courses in elementary scientific work.

ADMINISTRATION OF CREDITS

The administration of units of credit for summer travel or camp courses varies somewhat in the different institutions. In some institutions students may enroll for courses and earn credits which are applicable as a part of their college courses leading to baccalaureate

degrees or they may attend these courses without trying to earn credit. In some institutions unit credit is given to the individual student based on the amount of work accomplished rather than for the completion of any definite limitations of a course of study in which all enrolled are required to complete.

New York University allows a maximum credit of eight units to be earned by students attending the summer camp of the department of education; Western Reserve University, Cleveland, Ohio, allows a maximum of six semester hours of credit to be given toward the degree of bachelor of education for courses taken in the nature guide school of the Cleveland School of Education; full credit is allowed by the department of liberal arts of the university of Buffalo for courses taken in the summer school of the Allegany School of Natural History. The maximum credit allowed is six semester hours; the Northern State Teachers College, Aberdeen, S. Dak., allows 10 quarter hours of credit to students for courses in zoology, botany, or general biology, taken at the Lake Enemy Swim Biological Station, Waubay, S. Dak.; the State University of Washington, Seattle, allows 9 units of credit for 6 weeks of summer work and 15 units of credit for 9 weeks of summer work taken at the special biological station maintained at Friday Harbor, Wash.; the University of Oregon, Eugene, allows 7 term hours of credit for successful completion of the four weeks' annual field course in geology given during the summer period; Princeton University, Princeton, N. J., allows full credit for the specially planned four weeks' geology tour; the University of Colorado, Boulder, allows a maximum of 10 quarter hours of credit for four courses taken at the summer geology camps during a period of four weeks.

In regard to the administration of credits for work done in engineering summer camps, Prof. H. J. Hughes, dean of the department of engineering of Harvard University, maintained—

> That while courses in engineering are given at the Harvard engineering camp which correspond to courses which count as six semester hours in the regular term, it is impossible to rate these courses in semester hours. The students begin work at 7 in the morning and end at 4 in the afternoon, with three-quarters of an hour for lunch. On Saturday the work ends at 12. In addition to these stated hours, every student has considerable work at night, which varies with the skill and diligence of the student.

AVERAGE COST PER STUDENT

The average cost per student for attendance at summer camps varies in different institutions from about $50 to $165 for a period of three to six weeks. In general, the cost varies somewhat according to the kind of accomodations provided, the length of stay in camp, and the necessary traveling expenses. In general, facilities for liv-

ing in tents are provided at a very low rate and in some camps the space is allowed free for those who wish to provide their own tents. Sometimes there is a small registration fee, and occasionally a fee for medical examination at entrance.

The following detailed information regarding the costs of travel tours or summer camps maintained by a few institutions of higher education is sufficient to indicate the costs of facilities available at this time.

The fee for attendance for three weeks at the science camp of the Pennsylvania State College, State College, is $100. This amount includes board, lodging, tuition, and transportation from State College, Pa., to the camp and return.

The attendance fee at the biological station maintained by the State Teachers College, Aberdeen, S. Dak., ranges from $50 to $70 for six weeks. This amount includes board, tent quarters for men or bungalow quarters for women, and tuition fee. The tuition is $20 and living facilities cost about $6 or $8.50 per week.

At the Marine Biological Station, Woods Hole, Mass., the fee for attendance is $75. There is a registration fee of $5. Rooms are available ranging in price from $3 to $10 per week, and board may be had at the United States Bureau of Fisheries for $7 to $10 per week.

The entire cost for attendance at the seven weeks Allegany School of Natural History, affiliated with the University of Buffalo, is $150 for seven weeks.

The total cost for attendance for four weeks at the summer camp of physical education and health education maintained by Mills College, Mills College, Calif., is $107.

The total cost for attendance at the six weeks' physical education and health education camp maintained by the State Teachers College, Slippery Rock, Pa., is about $70.

The camp charge for the eight weeks of summer work for engineering students of Harvard University is $100. For students of other institutions there is an additional laboratory fee of $50.

The annual field course in geology provided by the University of Oregon is available for a total of $50, including tuition and subsistence.

EVALUATION OF OUTCOMES

In general, it is recognized that the practical experience afforded out of doors in the natural environment of the field, stream, lake, or mountain side can not be provided indoors in a laboratory or a lecture room. The study of science is incomplete if given only in the lecture room or laboratory. Excursions are necessary not only in order to show the environment in which forms live but as a means of

teaching students how to collect forms. Students and teachers have opportunities of collecting specimens to be used in their own teaching.

Many teachers at the completion of their year's work feel the need of a healthful vacation and also of opportunity for study at a reasonable expense. The outdoor school or camp provides such an opportunity.

The flexibility of the courses given allows for some freedom for individual development along lines of special interests and permits this work to be done somewhat according to the ability of each student. Many students or teachers enroll simply from a desire to acquire knowledge, while the pursuit of credits becomes a secondary motive for attendance, and may not even be considered.

A few excerpts from letters and annual reports of the directors of the various summer camps and travel courses conducted by colleges and universities are herewith presented as the most reliable source of opinion regarding the success of the out-of-door educational work which is now being carried on in various parts of the country.

Regarding the work accomplished at the Hopkins Marine Biological Station, it is stated in the catalogue of Stanford University:

> Students are provided with ample opportunities for acquaintance with animal life along the shore and opportunities to solve by their own efforts problems in the physiology of marine organisms.

Regarding the results of the work done at the biological station maintained by the State Teachers College, Aberdeen, S. Dak., the following are noteworthy:

> The special location of the station eliminates many distractions and is helpful to the students in keeping their attention fixed along biological studies.
>
> Attendance at the station is highly desirable from the standpoint of improving health.
>
> An outstanding result of the work at this station is the fact that most of the students attend for the purpose of gaining knowledge. Securing credit is a secondary motive. Many teachers take these courses in order to have opportunities for collecting biological specimens which they use in their teaching work.

The work of the Allegany School of Natural History may be summed up as follows:

> It affords a broad experience for science teachers for elementary schools, secondary schools, colleges, or universities.
>
> It is valuable to New York State in that "it is training leaders for the proper guidance of the public in intelligent appreciation and use of public parks."
>
> It offers a "practical demonstration in camp management" for those who are preparing to serve as leaders or directors of summer camps, for the Boy Scouts, Girl Scouts, Camp Fire Girls, as well as of the thousands of private summer camps throughout this country.

OPPORTUNITIES FOR LEADERSHIP TRAINING IN CAMP ORGANIZATION AND ADMINISTRATION

COLLEGES AND UNIVERSITIES

During the past 25 years there has been a tremendous growth of the summer-camp movement throughout the United States. More than 5,000 privately owned summer camps for boys and girls have been established. Many philanthropic, religious, and charitable associations have established summer camps as a means of affording healthful recreation for poor families living in large cities. Other organizations, such as the Camp Fire Girls, the Girl Scouts, Young Men's Christian Associations, and Young Women's Christian Associations, have established many camps throughout this country.

As a result of this growth of the summer-camp movement there was created a demand for camp directors and camp councilors having a theoretical and practical knowledge of the organization and administration of summer camps. Some institutions of higher education have tried to help meet this demand: (*a*) By establishing courses in camp organization and management which are offered as elective courses for students who wish to take such courses; (*b*) by including some instruction on camp methods as a part of courses in recreational leadership; and (*c*) by including similar instruction in courses offered in the training of leaders for the Girl Scouts, the Camp Fire Girls, and the Boy Scouts.

Camping for camp councilors.—A few colleges and universities provide theoretical courses in camping and campcraft for camp councilors. In some institutions these courses are included as a part of the required work of professional courses in physical education. In other institutions they are offered as electives for students who wish to secure special training in regard to summer camps. Among the institutions which provide courses in organization and management of camps may be mentioned: Howard University, Washington, D. C.; Western Illinois State Teachers College, Macomb (course for men); University of Notre Dame, Notre Dame, Ind.; State University of Iowa, Iowa City; Grinnell College, Grinnell, Iowa; Boston University, Boston; International Young Men's Christian Association College, Springfield, Mass.; Columbia University, New York, N. Y.; Cornell University, Ithaca, N. Y.; Syracuse University, Syracuse, N. Y.; Oklahoma College for Women, Chickasha, Okla.; University of Oklahoma, Norman, Okla. (course for women); Oklahoma Agricultural and Mechanical College, Stillwater, Okla.; Temple University, Philadelphia, Pa.; State Teachers College, Harrisonburg, Va.; Washington State Normal School, Ellensburg, Wash.

Recreational leadership, including methods of camping.—A few colleges and universities, while they do not offer courses of study devoted exclusively to camp organization and administration, provide courses in recreational leadership and include in these courses some instruction in camp methods. The following institutions provide courses of this type: State Teachers College, San Jose, Calif.; Connecticut College for Women, New London; State College of Agriculture and Mechanic Arts, University of Georgia, Athens; Georgia State College for Women, Milledgeville; Illinois Woman's College, Jacksonville; Iowa State Teachers College, Cedar Falls; Simpson College, Indianola, Iowa; Western Kentucky State Normal School, Bowling Green; University of Michigan, Ann Arbor; Western State Teachers College, Kalamazoo, Mich.; Northwest Missouri State Teachers College, Kirksville; State Teachers College, Mayville, N. Dak.; State Teachers College, Valley City, N. Dak.; Ohio State University, Columbus; Ohio Wesleyan University, Delaware, Ohio; Kent State Normal College, Kent, Ohio; Wittenburg College, Springfield, Ohio; University of Oregon, Eugene; Beaver College, Jenkintown, Pa.; State Teachers College, West Chester, Pa.; George Peabody College, Nashville, Tenn.; University of Texas, Austin; and Brigham Young University, Provo, Utah.

Camp Fire leadership and Scout leadership which include instruction in camp organization.—In general, a large number of colleges and universities provide courses of training in the special activities of the Boy Scouts, the Girl Scouts, and the Camp Fire Girls. Some of these institutions include in these courses special attention to the problems of organization and management of summer camps. Among the institutions which provide courses of this type may be mentioned the following:

Camp Fire Girls' leadership, including methods of camping.—Northern Arizona State Teachers College, Flagstaff; College of the Pacific, Stockton, Calif.; Illinois Woman's College, Jacksonville; Central State Teachers College, Mount Pleasant, Mich.; Concordia College, Moorhead, Minn.; Cotner College, Bethany, Nebr.; Nebraska State Normal School and Teachers College, Peru; Ohio State University, Columbus; Sam Houston State Teachers College, Huntsville, Tex.; Bellingham State Normal School, Bellingham, Wash. (courses in camp-fire work and campcraft have been offered in past years and will probably be scheduled again).

Scout leadership, including instruction in camping.—Lombard College, Galesburg, Ill.; Illinois Woman's College, Jacksonville; Kansas State Teachers College, Emporia; Kansas State Teachers College, Pittsburg; State Normal School and Teachers College, Murray, Ky.; University of Michigan, Ann Arbor; Central State

Teachers College, Mount Pleasant, Mich.; State Normal School, Cortland, N. Y.; University of Nevada, Reno; North Carolina College for Women, Greensboro; Ohio State University, Columbus; Sam Houston State Teachers College, Huntsville, Tex.; Southern Methodist University, Dallas, Tex.; Southwest Texas State Teachers College, San Marcos; and State Teachers College, La Crosse, Wis.

PRIVATE NORMAL SCHOOLS OF PHYSICAL EDUCATION

The greatest emphasis which has been given to the camp in connection with teacher-training courses in physical education has been given by the special normal schools of physical education. Ten of these institutions in addition to providing theoretical courses in camp management maintain organized camps and require two or four months of actual camp life as a part of their teacher-training courses.

The following normal schools of physical education maintain organized camps: The Arnold College of Hygiene and Physical Education, New Haven, Conn.; the Chicago Normal School of Physical Education, Chicago, Ill.; the American College of Physical Education, Chicago, Ill.; Normal College of the American Gymnastic Union, Indianapolis, Ind.; the Boston School of Physical Education, Boston, Mass.; Bouvé Normal School of Physical Education, Boston, Mass.; Posse-Nissen Normal School of Gymnastics, Boston, Mass.; Central School of Hygiene and Physical Education, New York, N. Y.; and the Chautauqua Summer School of Physical Education, Chautauqua, N. Y.

SUMMARY

The foregoing information shows that the organized summer camp is gradually gaining recognition as a factor in the field of higher education.

The demand for specially trained camp councilors by private, institutional, and municipal camps has become so large that departments of education, science, physical education, and recreation in colleges, universities, and teacher-training institutions are beginning to provide extensive courses in camp organization and administration for camp councilors.

The recognition of the possibilities of the organized camp summer school by many institutions of higher education is an outstanding tendency in educational progress to-day. Departments of agriculture, engineering, forestry, geology, science, biology, nature study, education, health, physical education, and recreation, have demonstrated the fact that the summer camp is an invaluable asset in connection with their work.

For the department of forestry it provides an indispensable laboratory; for the department of geology it provides an excellent opportunity for field work; for the department of science it provides opportunity for the study of special subjects in a special environment; and for the department of engineering it provides opportunity for the student to link up theoretical knowledge and practical experience.

For the departments of health, physical education, and recreation, the summer camp provides excellent opportunities for practice teaching. The student makes his first attempts to teach in an informal atmosphere in which the great out-of-doors proves its superiority to artificial indoor interest arousing devices.

In all of the schools and departments of colleges and universities by which the summer camp has been introduced the fact has been demonstrated that for the student or the teacher who wishes to pursue summer study, the summer camp provides excellent opportunities for an inexpensive, healthful, educational, and recreational vacation.

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